

**PATENT CLAIMS**

1. Circulating apparatus (1) for the transporting of sealing gas into the sealing chamber of dry gas seals (2b) of a rotary compressor (2a), including a line (1a, 1b) which forms a fluid path in order to connect the apparatus (1) to a sealing gas circuit, including a compressor (1c) and also a heating device (1e) which are fluid conductingly connected to the line (1a, 1b) and also including a control apparatus (4) which controls the compressor (1c) and also the heating device (1e).
2. Circulating apparatus (1) including in addition a filter (1i) which is arranged along the fluid path of the line (1a, 1b).
3. Circulating apparatus (1) in accordance with one of the preceding claims, characterised in that a temperature sensor (1h) is arranged such that it measures the temperature of the sealing gas in the sealing gas circuit and in that the control apparatus (4) is designed in such a way that it detects the value of the temperature sensor (1h) and controls the heating device (1e) in dependence on the measured value.
4. Circulating apparatus (1) in accordance with claim 3, characterised in that the control apparatus (4) includes a storage means (4b) for a phase diagram (5) and in that the control apparatus (4) is designed such that the heating device (1e) can be controlled in dependence on the phase diagram (5) and/or on the measured value of the temperature sensor (1h).

5. Circulating apparatus (1) in accordance with one of the preceding claims, characterised in that the compressor (1c) has a compressed air drive.
6. Compressor (2) including a circulating apparatus (1) in accordance with one of the preceding claims, wherein the line (1a, 1b) forms part of a sealing gas circuit.
7. Compressor (2) in accordance with claim 6, characterised in that the sealing gas circuit is designed such that it conducts process gas.
8. Compressor (2) in accordance with claim 6 or claim 7, characterised in that the compressor (2) includes a first sealing gas circuit (2l, 2m, 2n, 2o); in that the compressor (2) includes a second sealing gas circuit (1a, 1b, 2n, 2o) in which the circulating apparatus is arranged, and in that valves (1f, 2p) are arranged such that either the first sealing gas circuit or the second sealing gas circuit is fluid-conducting throughout.
9. Method for the switching off of a rotary compressor (2) having dry gas seals (2b) in which the dry gas seals (2b) are supplied with a heated sealing gas during a stoppage.
10. Method in accordance with claim 9, characterised in that process gas is used as the sealing gas.
11. Method in accordance with one of the claims 9 or 10, characterised in that the pressure of the process gas is not reduced during the stoppage and in that the rotary compressor (2a) is run up again after the stoppage.

12. Method in accordance with one of the claims 9 to 11, characterised in that the pressure and/or the temperature of the sealing gas or process gas is measured and in that the sealing gas or process gas is heated in dependence on the measured temperature and/or pressure.
13. Method in accordance with one of the claims 9 to 12, characterised in that a phase diagram corresponding to the sealing gas or process gas is stored and in that the sealing gas or process gas is heated such that no liquid or solid components precipitate out in the dry gas seals (2b).
14. Compressor or compressor system operated with a method in accordance with one of the claims 9 to 13.